# bd07151_Stat and Data Analysis Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7-1 Classwork Date: \_\_\_\_\_\_\_\_\_\_\_\_\_ Block: \_\_\_\_\_

1. Mrs. Hopeless, a math teacher, is loved by all. Unfortunately, she makes many mistakes when grading her students’ papers. In fact, she makes a mistake in 65% of the problems she grades!! Today Mrs. Hopeless will be grading a classwork assignment consisting of 5 problems.
2. Molly, one of Mrs. Hopeless’ students, would like to perform a simulation using a random digit table. Write instructions for a simulation that Molly could perform.
3. Use the random digits below to perform 20 trials. Clearly mark the results above each line. Record your results in the table.

62568 70206 40325 03699 71080 22553 11486 11776 45149 32992 75730 66280 03819 56202 02938 70915 61041

77684 94322 24709 73698 14526 31893 32592 14459 26056 31424 80371 65103 62253 50490 61181 38167 98532

62183 70632 23417 26185 41448 75532 73190 32533 04470 29669 84407 90785 65956 86382

|  |  |
| --- | --- |
| **Number of problems marked incorrectly** | **Frequency** |
| 5 |  |
| 4 |  |
| 3 |  |
| 2 |  |
| 1 |  |
| 0 |  |

1. Determine the chance that Mrs. Hopeless will mark all five problems incorrectly.
2. Determine the chance that Mrs. Hopeless will mark no more than 2 problems incorrectly.
3. Determine the chance that Mrs. Hopeless will make at most 1 mistake.
4. Calculate the average number of mistakes made by Mrs. Hopeless.
5. A person with type O-positive blood can receive blood only from other type O donors. About 44% of the U.S. population has type O blood. At a blood drive, how many potential donors do you expect to examine in order to get three units of type O blood?
6. Write instructions to complete a simulation using a table of random digits.
7. Using the random digits below, conduct 10 trials. Clearly mark the results above each line. Record your results in the table.

31255 71609 89887 00940 54355 44351 89781 58054 65813 66280 56046 50526 33649 87067 02697

06577 16707 96368 47678 70218 28376 98535 34190 96911 81897 31220 50048 03027 25602 34988

95552 76073 69691 51038 63338 88390 41926 71698 21593 60621 41534 84312 96984 84706 28095

91612 99108 26258 38524 27484 73732 70678 00803 29854 42490 28160 78791 42272 16777 87049

|  |  |
| --- | --- |
| Number of Donors Needed | Frequency |
| 3 |  |
| 4 |  |
| 5 |  |
| 6 |  |
| 7 |  |
| 8 |  |
| 9 |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14+ |  |

1. What is the probability that you would need to find more than 10 donors to get three units of Type O blood?
2. What is the probability that you would find three units of Type O blood within the first 9 donors?
3. What is the average number of donors needed?